

COASTAL INDIANGRASS A SOURCE IDENTIFIED CLASS OF NATURAL GERMPLASM

The U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) announces the naming and release of Coastal Indiangrass, *Sorghastrum nutans* (L.) Nash. a source identified release. This Indiangrass was identified by the USDA-NRCS Plant Materials Center in Cape May New Jersey and has been assigned Accession Number 9094765.

Collection Site Information: Coastal is a composite, bulk harvest source identified release resulting from 5 parental populations. The collection sites represent a cross section of natural stands from Connecticut, Rhode Island and Massachusetts.

Description: *Sorghastrum nutans* (L.) Nash. Tufted perennial; culms to 2.5 m tall; nodes usually appressed pubescent, internodes glabrous. Blades to 6 dm long and 15 mm wide; ligules retuse to cordate, 4-6 mm long, appearing auriculate when split. Panicle 1-4 dm long, mostly 3-4 cm broad; rachis nodes usually appressed pubescent, internodes glabrous. Glumes yellowish brown, acute; lemmas ciliate, 4-5 cm long, awns yellowish, twisted, slightly geniculate, mostly 1-2 cm long.

Method of Breeding and Selection: Vegetative propagules from each parental line were started in the greenhouse and transplanted to a crossing block located at the Cape May PMC. Equal numbers of plants were installed in rows, and rows were randomized to encourage cross pollination. Materials are harvested using a Flail-Vac Prairie Harvester. No selections were made in order to maintain the broadest possible genetic pool.

Conservation Use: This plant is intended for use in USDA Conservation Programs which include CRP, CREP, EQIP WHIP and any other program that is designed to enhance native warm season grass habitat.

Area of Adaptation: Indiangrass is adapted to the Northeast west to Texas and North Dakota. It grows best in deep, well-drained floodplain soils. However, it is highly tolerant of poorly to excessively well-drained soils, acid to alkaline conditions, and textures ranging from sand to clay.



US Army Corp of Engineers Wilmington District and the Cape May PMC: Wanchese Marsh Creation

It's only 10 acres in size, but it's making a huge mark in ecosystem restoration in North Carolina.

Coastal wetlands that formerly helped protect the entrance at Wanchese Harbor from erosion had whittled down over the years to a thin strip of vegetation that was incapable of stopping further erosion. In addition, it no longer provided sanctuary for small creatures. This diminished condition impacted not only the harbor entrance that leads fishermen to open ocean, but the North Carolina Seafood Industrial Park as well.

The Beneficial Use of Dredged Material Interagency Work Group stepped in to offer a solution. This project would give Wilmington District biologists and engineers an opportunity to use dredged material from a nearby navigation channel to restore the estuarine habitat and protect the remaining marsh.

"The Wanchese Harbor is an important harbor area," said Wilmington District Marine Biologist Chuck Wilson. "We used dredged material from the navigation channel to try and stop erosion and bring back the ecological balance that was once there."

So far, Wilson said the project is working. Plants are thriving, and a variety of waterfowl are beginning to investigate the man-made area. However, the initial stages of the project were a guessing game of trying to build an ecosystem from scratch. Through adaptive management the team found an excellent formula that worked.

Bill Dennis helped design the Wanchese Harbor Project. "The most difficult thing we had to work with was the different sediments that eventually got into the basin," he said. "There was a whole range of coarse sands, silt, and

clay, quite a mixture. To come up with a way to contour the area to meet specific elevation requirements with all of that mix was difficult. There was a lot of 'guesstimation' as well. So it took some effort on the construction side because we needed something stable that we could smooth into the contours."

From the biological side, Wilson said a combination of hard science, intuition and applying what they had learned from restoring shoreline marsh at Festival Park gave them insight into how the plants would probably grow with the unpredictable fluctuation of the tide. The thriving growth of the recently planted marsh grasses was a good indicator of the overall health of the emerging ecosystem, and it also was a good sign that the elevations grade and planting operations were correct.

"The marsh grasses are growing well, and we have about 90 percent survival of plants. Ducks and geese are already using the new marsh which is a good sign of it being a potential wildlife habitat. We just hope they don't graze too much."

Wilson said the majority of those plants were provided by a planting contractor. However, a portion came from the Cape May Plant Material Center in New Jersey, a U.S. Department of Agriculture-run facility. He said the plants grown in New Jersey were used in conjunction with a contractor's plants to establish test plots for quality control.

"If there was any catastrophic plant mortality, the test plots could help us determine if it was a problem with the plants or the site conditions. If the contractor's plants died, but the government plants lived, it would indicate that it was a

(Continued on page 3)

Wanchese Marsh Creation, continued

problem with the plants and not a problem with the design.”

Wilson added that Bill Skaradek of the Cape May facility will use test plots to look at the performance of different nursery-grown plant containers in these tough growing conditions. One benefit that is already noticeable is that plants with deeper roots may prevent geese from pulling the plants up, minimizing damage.

The success of the Wanchese Harbor Project is a good example of how engineering and biology work together for ecosystem restoration. For Dennis and Wilson it was an opportunity to somewhat cross train to get a better idea of how all the pieces of the project were put together.



USACE Chuck Wilson and Major Hilliard inspect control plots.

USDA NRCS National Plant Material Program

The purpose of the Plant Materials Program is to test and release plants that can help solve natural resource problems. Many plants developed by the NRCS are being used for alternatives to foreign energy sources, carbon sequestration, erosion reduction, wetland restoration, water quality improvement, streambank and riparian area protection, coastal dune stabilization, and other special conservation treatment needs. USDA NRCS scientists located at Plant Material Centers, seek out plants that show promise for meeting these and other identified conservation needs. After species are tested and proven, they are released to the private sector for commercial production. This work is carried out at twenty seven USDA NRCS Plant Material Centers located strategically throughout the United States and done cooperatively with state and Federal agencies, commercial businesses, seed and nursery associations.

The Cape May Plant Material Center has been a leader in developing new native plants and technologies for coastal, marine and estuarine habitat. To learn more about us, visit our web sites at:

<http://plant-materials.nrcs.usda.gov/njpmc/>

Field Offices, District Employees, Partners and Volunteers: We need your help!

The Cape May PMC serves a nine-state service area extending from Massachusetts's to the North Carolina South Carolina border. The plant developmental process used by the Cape May PMC relies heavily on cooperation conservation partners to locate native plant stands; collect materials and ship them to Cape May; locate suitable plant testing sites; record plant performance data; and *publish new scientific findings*. If you or anyone you know would like to become a partner and volunteer your talents contact us at:

USDA NRCS Cape May PMC
1536 Route Nine North
Cape May Court House NJ 08210
(609) 465-5901
William.skaradek@nj.usda.gov



'Atlantic' Coastal Panicgrass

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